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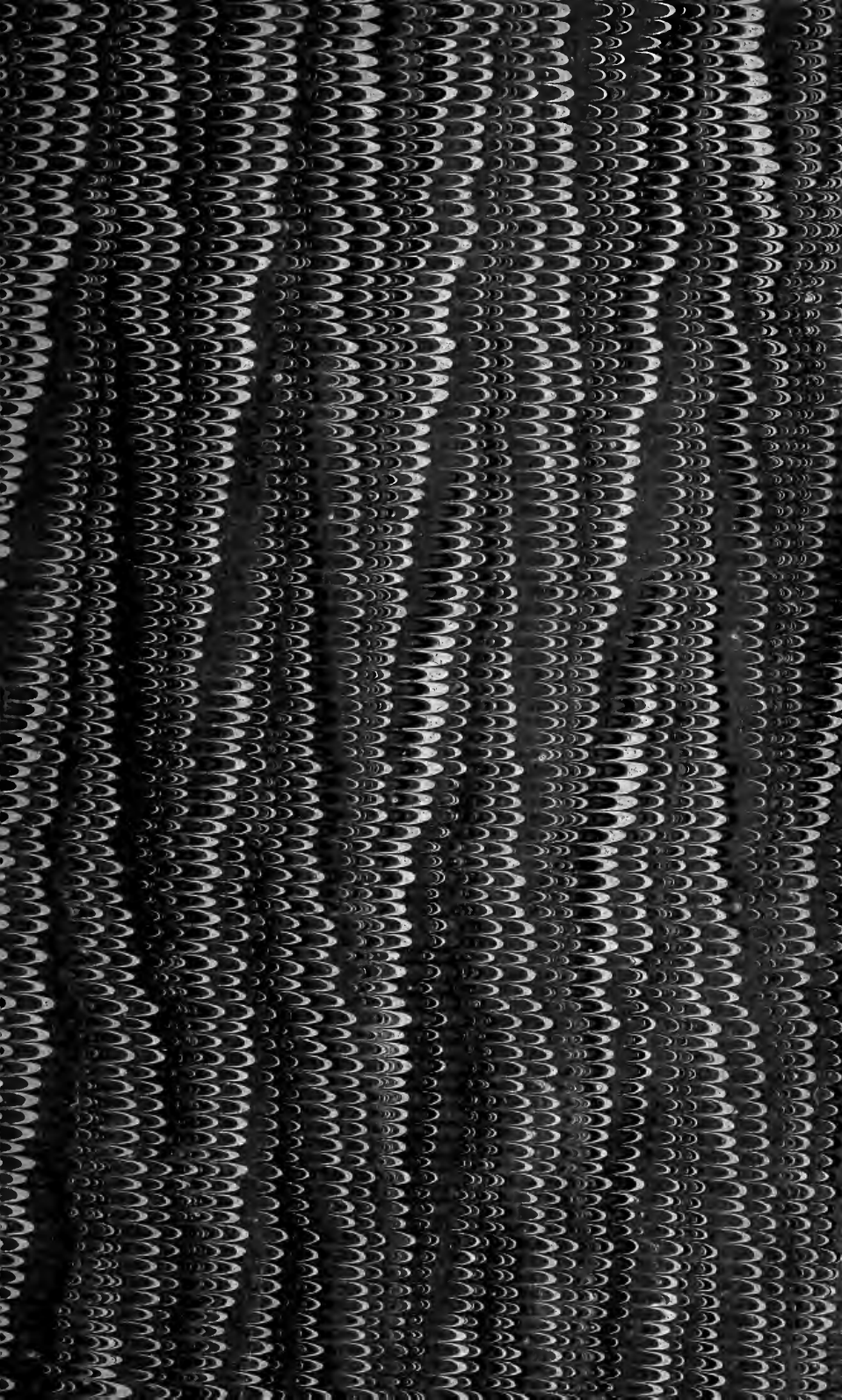
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HEALTH IN THE PUBLIC SCHOOLS:

A PAPER READ BEFORE THE

Northeastern Ohio Teachers' Association,

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Perhaps the best introduction to this paper will be a brief account of the way it came to be written.

At the last meeting of this Association, held in Warren in June, it was stated in one of the papers read, that excessive demands in the way of study were a pronounced tendency of the public schools. In the discussion that followed, this statement was challenged. It was admitted on all hands, that the charge is a very common one; but it was claimed, on one side, that it has no foundation in fact, but is a sort of cant afloat in the air, while it was insisted, on the other, that the charge is true. Out of this discussion, which was quite an animated one, grew a motion that I should prepare a paper on the subject, to be read at this meeting. Before this motion was put to vote, I declined to undertake the task, if it were understood that I was to confine myself to the main question, but signified a willingness to do so if allowed to discuss some of its general bearings. With this understanding the motion carried, and the appointment was accepted.

In redeeming my promise, let me, first of all, call attention to the fact, that excessive demands in the way of study is a constant and emphatic charge against the public schools. Two

classes of witnesses, especially, are pretty unanimous in their testimony on this point. The first class consists of those newspaper writers and magazinists, who have occasion, from time to time, to discuss our public education. What startling pictures these draw, every now and then! As a specimen of their work, though it is quite mild in tone, I make an extract from the "Editor's Table" of the *Ladies' Repository*, found under the expressive head, "Cruelty to School Children":

"Though old modes are abandoned, we are of opinion that school teachers still practice cruelties on the sensitive nature of childhood as severe as those of the cherry, oak, birch, and rawhide dispensation. Sarcasm and ridicule can be made as terrible weapons, and can inflict as savage wounds, as the ruler or rattan. The competitive system, studying for rank and marks and promotion, has its martyrs as well as the rod. In these days school curriculums are overloaded, scholars are overtasked, made to carry on more studies and to study more hours than is good for the bodily health or for the due growth of the mind in strength and knowledge. Besides the six hours a day confinement in the school-room, teachers assign tasks for the pupils to con out of school under the eyes of their parents, thus abridging their hours of play and exercise, or robbing parents of the assistance of the children in the various services required in household management. Six hours a day ought to be the limit of attention to books with every child during the period of growth, and those six ought to be broken into periods of play and relaxation at due intervals. Assigning exercises for out-of-school hours should in no case be allowed, and keeping after school should be a punishment reserved for cases that require severe measures and stringent discipline."

In general, we may suppose these literary people believe and feel what they say, at least for the time being. At the same time, however, it is clear, that many of them are drawn to the subject by what we may call the newspaper sense. Slashing articles, on almost all subjects, are greedily read by the people. And then the picture of school children, with big heads and small bodies, full of nerves, without lymph or phlegm, thin-blooded and bow-legged, bending all day over books that are both too many and too hard, precocious as Paul Dombey, and going like him to an early grave, has great attractions for the *literateur* who turns his attention to education.

The second class of persons is the medical profession. Am I not within the bounds of truth when I say, that the great majority of practicing physicians, especially in the cities, hold the opinion that the burden of study laid on children in the schools is too heavy? And the doctors claim to have exceptional opportunities for ascertaining the facts. Dr. E. H. Clarke, for ex-

ample, says the places to study the effects of coeducation are "the sick chamber, not the schoolroom; the physicians private consultation, not the committee's public examination; the hospital, not the college, the workshop, or the parlor."* I do not charge the doctors with bringing a railing accusation against the teachers. In some respects their opportunities for getting at the facts are no doubt exceptionally good; but they are peculiarly liable to fall into some fallacies that I shall have occasion to point out before this paper is concluded.

On the other hand, teachers, as a class, are almost equally unanimous in denying that their pupils are overworked; and they, too, claim that they have unequalled opportunities of finding out the truth. Whether the teachers also are liable to fall into mistakes will also come in my way to inquire.

So far as the public mind is concerned, it is a good deal bewildered. Parents, when the question comes before them in a practical way, generally decide with the physician or the teacher, according as the pressure is more or less.

In the meantime, the question at issue is one of immense importance. Our common schools are a growth of more than two hundred years. They have cost vast sums of money, and infinite pains: with all their imperfections, they are a fair expression of our average educational sense and culture. We have built them up for the most cogent and imperative reasons, some intellectual, some political, some moral. We have intended them as a mighty instrument of improvement. Are they rather an instrument of deterioration? Is the health of our children breaking down under their school burdens? Is the American child-constitution unable to support American school instruction as now organized? Are our efforts to train the mind ruining the body? If these questions are to be answered in the affirmative, we ought to know it, that we may readjust our system; if in the negative, we ought to know it, that we may silence ignorant clamor. The question is all the more important, because there is so much reason to think that what I shall venture to call the American race, is falling off in physical power. Before making such remarks as I have to offer on this point, let me guard myself against possible misapprehension.

There is a class of persons who hold that the mind is built

* *Sex in Education*, pp. 61-2.

up at the expense of the body. They associate a high degree of physical power, with a low degree of mental cultivation, and regard weakness and effeminacy as characteristics of a high civilization. This opinion I scout utterly. It is a part of that habit of mind which attributes such extraordinary virtues to the savage, as though the savage were not a weak and miserable creature the world over! The famed Arabian steed, whose fleetness is proverbial, it is well known, is no match for the thorough-bred horse of the English or American turf: no more is the rude man of the woods, even in point of physical power and endurance, a match for the thorough-bred man of civilization. It would certainly be strange if God had given us a nature, one half of which can not be cultivated, save at the expense of the other half; still, civilized peoples have often declined physically, as they will no doubt do again. This does not spring from any necessary connection between physical weakness and cultivated life, but rather from the vices of the latter. But without elaborating this thought further, let me return to the statement that there is much reason to hold that the American people are exhibiting evidences of a decline in physical power.

Those who hold that such is the fact, rest their proposition partly on the testimony of the medical profession, and partly on the vital statistics of the country. Under the latter head, for example, it has been ascertained that the number of children under a given age, say fifteen years, as compared with the number of women between fifteen and fifty, is constantly becoming smaller. The "Circular of Information" sent out by the National Bureau of Education for March, 1872, along with other valuable matter from the same source, contained a table compiled from the Census Reports from 1800 to 1860, by Dr. J. M. Toner, a scholarly physician of a statistical turn of mind, that puts this subject in a clear light. In the state of Ohio, within that period, the falling off was more than fifty per cent. In the other states the results were similar, though not in all cases so striking. In a later publication, Dr. Toner returned to the subject, this time showing that, taking the country together, "in 1830 there were to every thousand marriageable women, one thousand nine hundred and fifty-two children under fifteen years of age. Ten years later, there were one thousand eight hundred and sixty-three, or eighty-nine less children to every thousand women than in 1830. In 1850, this number

had declined to one thousand seven hundred and twenty; in 1860, to one thousand six hundred and sixty-six; and in 1870, to one thousand five hundred and sixty-eight. The total decline in the forty years was three hundred and eighty-four, or about twenty per cent of the whole proportional number in 1830." He proved further, that "the United States Census of 1870 shows that there is in the city of New York, but one child under fifteen years of age to each thousand nubial women, where there 'ought to be three'; and the same is true of other large cities."* This startling result is due principally from two causes. The first is an increasing mortality among children in the large cities, consequent upon over-crowding; and the second, a diminishing birth-rate, consequent on a variety of causes that need not be here mentioned. Under the first head, I desire to say, that about fifty per cent of all children born in the large cities die before they reach the age of five; and under the second, the diminishing birth-rate appears to point unmistakably to a loss of vital power on the part of our people.

Especially is it charged that American women are deteriorating physically. Unfortunately, this question, from being a matter of dry statistical inquiry, has become part of a heated controversy, from its supposed bearing on coeducation, and it accordingly draws to itself some of that "suffusion of the will" of which Bacon speaks in one of his writings. Keeping wide of this controversy, I feel bound to say that, from whatever cause, the charge against American women is well founded.

Into the causes of our physical deterioration, I make no inquiry. Some Europeans are wont to say that our country does not supply the physical conditions of continued physical power and tone. Dr. Clarke seems to have lent some countenance to this view, when he argued at Detroit—

"No race of humankind has yet obtained a permanent foothold upon this Continent. The Asiatics trace back their life in Asia so far that the distance between to-day and their recorded starting-point seems like a geologic epoch. The descendants of the Ptolemies still linger about the Nile. The race that peopled Northern Europe, when Greece and Rome were young, not only retains its ancient place and power, but makes itself felt and heard throughout the world. On this Continent races have been born, and lived, and disappeared. Mounds at the West, vestiges in Florida, and traces elsewhere, proclaim at least two extinct races.

* *The Nation*, No. 426.

The causes of their disappearance are undiscovered. We only know that they are gone. The Indian whom our ancestors confronted was losing his hold on the Continent when the Mayflower anchored in Plymouth Bay, and is now rapidly disappearing also. It remains to be seen if the Anglo-Saxon race, which has ventured upon a continent that has proved the tomb of antecedent races, can be more fortunate than they in maintaining a permanent grasp upon this Western World. One thing, at least, is sure, it will fail, as previous races have failed, unless it can produce a physique and a brain capable of meeting successfully the demands that our climate and civilization make upon it.”*

Without either sanctioning this theory or propounding any other, I would urge that the vital condition of our population, apart from any other considerations furnishes abundant reason why we should investigate the relations of our public schools to the public health.

Any really valuable inquiry into these relations must be strictly inductive. In this field, it is idle to theorize or speculate. Nothing but carefully observed and registered facts can guide us to satisfactory conclusions. It was for this reason that I declined, at Warren, to undertake a discussion of the main question. In the first place, I had no such experience as would enable me to speak with authority; in the second place, I was not familiar with the literature of the subject; while it was impossible for me to make good either of these defects. What is more, I was then doubtful, as I still am, whether there has been collected the data necessary for any general conclusion. This opinion is held, however, on negative, rather than on positive, grounds.

But while the inquiry must be strictly inductive, it is an induction attended by some peculiar difficulties. We sometimes go wild over a mass of facts. The truth is, facts are of little, if any value, until they have been sifted, classified, and interpreted by the intelligence. The Baconian method has not abolished theory; it has only placed it after the facts, not before them. Suppose it be charged that a large number of children in the schools are in poor health. This is a plain question of fact, and can be very easily determined. But the philosopher asks, What is the cause of this state of affairs? All the facts ever gathered by the vital statistician, until interpreted by the philosopher, will never answer this question. It is not a question easily answered, and I must think that the great

* *The Nation*, No. 476.

majority of teachers and parents, as well as many physicians, from want of the requisite powers and habit of analysis, are incapable of the effort. It brings us into the field of cause and effect, that high region of thought where so many and such serious mistakes are made in reasoning. Without any logical discrimination of these mistakes, let me say, one of the most frequent and flagrant is this: to conclude when one thing follows another, that the two stand in the relation of cause and effect; thus confounding *post hoc* and *propter hoc*—a head under which more popular fallacies can be exhibited than under any other known to logic. For example, it has been observed that the ratio of the convicts in our prisons who can not read and write, to those who can, is very great; from which fact it has been inferred that illiteracy is the principal cause of crime. That there is no such necessary relation, has been fully shown by Mr. Herbert Spencer in a passage which has taught one person, at least, to be slow, especially when reasoning on social affairs, to accept coexistence or consecutiveness of time as indicating cause and effect. Here is the passage:

“We have no evidence that education, as commonly understood, is a preventive of crime. Those perpetually reiterated newspaper paragraphs, in which the ratios of instructed to uninstructed convicts are so triumphantly stated, prove nothing. Before any inference can be drawn, it must be shown that these instructed and uninstructed convicts come from two *equal* sections of society, alike in *all other respects* but that of knowledge—similar in rank and occupation, having similar advantages, labouring under similar temptations. But this is not only not the truth; it is nothing like the truth. The many ignorant criminals belong to a most unfavourably circumstanced class; whilst the few educated ones are from a class comparatively favoured. As things stand it would be equally logical to infer that crime arises from going without animal food, or from living in badly-ventilated rooms, or from wearing dirty shirts; for were the inmates of a gaol to be catechized, it would doubtless be found that the majority of them had been placed in these conditions. Ignorance and crime are not cause and effect; they are coinciding results of the same cause. To be wholly untaught is to have moved amongst those whose incentives to wrong-doing is strongest; to be partially taught is to have been one of a class subject to less urgent temptations; to be well taught is to have lived almost beyond the reach of the usual motives for transgression. Ignorance, therefore, (at least in the statistics referred to) simply indicates the pressure of crime-producing influences, and can no more be called the cause of crime than the falling of a barometer can be called the cause of rain.”*

* Social Statics, pp. 379-80.

Let us apply a similar analysis to the matter in hand.

Let it be granted that an undue proportion of pupils are breaking down in health in the schools. It does not follow that the cause will be found *at school*. School is only one element in the child's life. He leads a home-life besides, and very likely, a social life into the bargain. Now the cause of his loss of health may be at home, or in the social circle. His health may fail because he is badly fed or clothed, because he is overworked at home, because he spends too much time in society or on the streets; it may be on account of one, or two, or all of these facts. Under these circumstances it will be granted, that it requires a good deal of knowledge and acumen to determine the *real* cause. But a pupil's health shows signs of giving way, a physician is called in, the six hours a day spent at school is to the physician, as it probably is to the parent, the most obtrusive fact of the pupil's life. The physician says the child is studying too hard, and recommends that he be taken from the school; while the report goes abroad that the school teacher is working the children to death. Obviously, in the case supposed, the physician should say, clothe this child in a more rational manner, give him more wholesome food, take him out of society, keep him off the streets, and do not let him sit up so late at night. Whether the demands made on school children are excessive or not, I am convinced that a good deal of ill health is charged to the schools, that ought to be carried to the account of bad handling at home.

But for argument's sake, we will grant that the doctors are right, and that the trouble is at school. But where, at school? Here we are confronted by another difficulty as embarrassing as the one just considered. As school is only one element in a pupil's life: so the amount of study required of him is only one element of his school life. Other elements enter into the problem, and it must not be concluded that the teacher's demands are excessive, because his pupils are suffering in health. The teacher may not impose too much work, but he may require it to be done in such ways, or he may have such absurd methods of instruction, that the amount required is a weariness to the flesh as well as to the mind. What is more, the physical conditions under which the work is performed may be unfavorable. The National Commissioner very justly says:

"Headache, bleeding at the nose, diseases of the eye and spine, dyspepsia, affections of the bronchial tubes and lungs, exanthematous

fevers, diptheria, and many other complaints, have undoubtedly been induced, or aggravated by the collection of numerous children in school under unfavorable conditions, as to ventilation, light, heat, cleanliness, exercise, and habits of study. School furniture is responsible for much curvature of the spine. Bad print, bad light, and bad position of the head while studying continually, cause distortions of the eye and result in trouble.”*

This statement is sufficient to show that our school administration may be working badly in a sanitary point of view, and yet the fault may not be unreasonable demands in the way of study. At all events, there is here plenty of room to fall into fallacies. As the six hours a day in school is the most striking fact in the pupil's life, and therefore more likely to be seized hold of than any other to explain the loss of health, so the lessons are the most striking fact of his school life, and therefore the more likely to be charged with such ill health as the schools produce. Hence, as the school is often charged with consequences really caused by forces acting at home, so the lessons are often charged with the effects of poor ventilation, bad heating arrangements, and insufficient exercise. When a human being's life is marked by no prominent fact, it is frequently difficult demonstrably to trace disease to its real cause; and the demonstration is especially difficult in the case of the pupil at school.

That a good deal of disease and many deaths are traceable to the common schools, and other places of education, I have not the slightest doubt. But it has been well remarked: “When we look for the causes which explain any known evil, we usually find that many concurrent causes unite to produce the result. It is seldom that we can trace in society any great evil to the action of any sole cause.” Notably is this the case with young persons attending school. Perhaps some of these concurrent causes should be stated at greater length.

The Board of Health for the state of Michigan, a little more than a year ago, appointed a committee on buildings, public and private, including ventilation, heating, etc., at the head of which was placed Dr. R. C. Kedzie. The report of the Board for 1873 contains a report from Dr. Kedzie on “School Buildings, in relation to their construction, warming, and ventilation, as influencing the health of teachers and scholars.” This very valuable document I have consulted in preparing this

* Report for 1872.

paper. Dr. Kedzie shows that in Michigan much mischief is done by overcrowding schoolrooms. He also insists, and with manifest truth, that great injury is caused, especially to girls of certain ages, by lofty schoolhouses, entailing upon pupils an unreasonable amount of stair-climbing. He says under the first head, "the lowest estimate would require three hundred cubic feet of space, and twenty-five feet of floor space for each scholar"; and under the second, he insists that a schoolhouse, except for the most imperative reasons, should not be more than two stories high. He also indicts the large schoolhouses, those where a thousand or fifteen hundred children are massed, and claims that houses of moderate size are far better. He also traces much ill health to imperfect warming and bad ventilation. In order to obtain satisfactory information in regard to ventilation, Dr. Kedzie visited some thirty schools, "examining their principal rooms, their mode of warming and ventilation, the degree of impurity in the air of the schoolrooms, their condition in regard to temperature, dryness", etc. The results he tabulates in his report. He frequently found a difference in the temperature at the floor level and at the desk level of from eight to fifteen degrees; in one instance it was nineteen, and in another it was twenty-one degrees. In the last case the teacher exclaimed in astonishment, "Why we ought to keep the head cool and the feet warm, and how am I to do it?" The reply was, that in such a schoolroom it was impossible, unless the children stood on their heads! Plainly it would be as reasonable to expect a man to be healthy, when his head was in the torrid zone and his feet in the frigid, as it would be to expect children to be healthy whose extremities were immersed in air of such different temperatures. Dr. Kedzie's report, of which I have not even attempted an analysis, is deserving of wide attention; it is good reading in Ohio as well as in Michigan.

The attempt of the teacher to trace a pupil's loss of health to its proper cause or causes, is attended by some peculiar difficulties. A statement of these will show the fallacies into which he is liable to fall.

Those which I shall mention, arise from his bias as a teacher. He knows about what a pupil should do; he has his own standards of work, resting on experience and formulated in "the course", and he is constantly falling into habits of routine. Not only so: he is interested in his own work, thinks the busi-

ness of the pupil is to be a pupil, and is as apt as other people to locate the causes of evils at a distance from himself; in other words, his bias predisposes him to trace failure in health to the pupils home life. What is more, he probably knows less of the child's home life than the physician or the parent does of the school life. If a child leaves the school, perhaps the teacher does not know why; or, if he knows that the cause is ill health, he loses sight of the invalid, and thinks no more about him. Besides, the teacher is occupied with the prominent features of his work; in his thoughts he emphasizes the things that are to his mind; he is more interested in his strong and vigorous pupils than in the weak ones. His attention is fixed on those pupils who keep on to the end of the march, and, as the end is neared, he scarcely notices how the column has thinned out, or, if he does, he hardly inquires after the missing. I do not mean that this is true of all teachers, or of the same teacher at all times; I mean only that these are very natural, and very pronounced tendencies of the teaching class. It might be supposed that the teacher, of all people in the world, would be fitted to decide how much study should be required of pupils in school; probably he is, but enough has been said to show how fallible his judgments are likely to be. To these considerations two others may be added: the teacher's relative want of physiological and psychological training, and his perpetual tendency toward routine.

Fellow-teachers, you will agree that I have been markedly successful in talking around the subject. But you will remember that I never promised to do more than talk around it. Perhaps I have said enough to emphasize the subject, and to furnish some useful hints for making the inquiry. Let us now pass to some related matters. If it be true that the vital condition of our population is deteriorating, in what relation does this fact stand to our work as teachers? Some will say: "Grant that the child ought to be able to perform the tasks assigned; grant that he is able, provided the home life were what it should be; nevertheless, homes are what they are, and are not likely to be rapidly changed for the better. What shall the educator therefore do? Shall he pay no attention to the common conditions of child life? Shall the teacher add the last straw that breaks the camel's back? No, let him recognize the facts as they are, and accommodate himself to them. Let him lop off a part of his demands at once, and thus give the chil-

dren rest and health." Concerning this view two things should be said.

In the first place, it is important to ascertain the real cause of any evil, that correction may be made where it belongs. If the home life of the child is unnatural, this fact ought to be known; especially ought it to be known, if so unnatural as to interfere with his education. If society is to blame for a low vital condition in the schools, then society should correct itself. People must be given to understand that school is a fact of first importance in the life of a pupil. But, in the second place, the wise teacher will practically recognize all facts, relating to the child's life, in so far as they are related to his efficiency and success as a pupil. He will not add the straw that breaks the back of the camel, although he sees a whole bale of straw on the animals back that ought not to be there. He will seek first to have the bale taken off. He will take the facts of average home and school life into the account, in adjusting his system. But while he inquires what is, and what is likely to be, he will not cease to work for reform where it is really called for.

One glance at another matter: all courses of study, all class work, is based on the doctrine of averages. The demands made upon pupils in the public schools are graduated in that way; they can be graduated in no other. Now in any normal, healthy civilization, there is always a variety of talent and of power. Hence the school standard can not be put up to the level of the best minds, nor put down to the level of the poorest. To do the first would be to sacrifice the majority to the geniuses; to do the second would be to sacrifice the majority to the dunces. Here is the greatest defect in the public-school system: it must be grounded in the wants of mediocrity. It gives small play for individuality of mental power and character. To be sure, this is a difficulty in all education except the solitary; but it is peculiarly so in public school education. Something more can probably be done to relieve this difficulty, but it can never be wholly overcome. With the general features of this subject, I am not concerned, and shall offer but a word or two on the special feature. The doctrine of averages works badly for the two extremes of ability: for bright students and for dull ones, for the strong and for the weak. In any school of considerable size, you will be sure to find two classes of pupils: those who are overtaxed mentally or physically, or both, and those who are capable of doing more work. Without

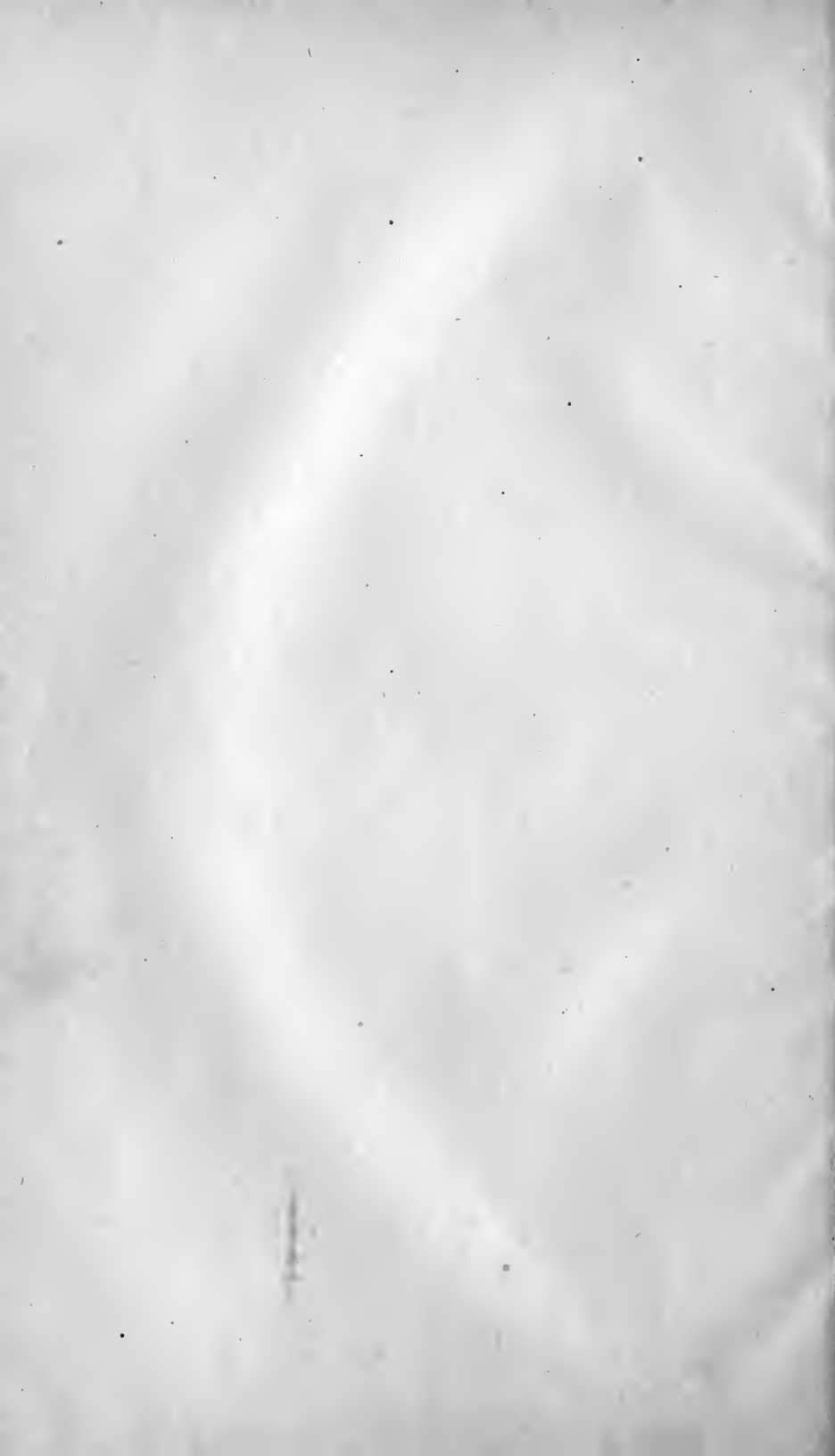
passing on the general merits of the question, I have no doubt there is a class of weak pupils in the schools, who are over-worked. Nor do I see that it is possible to give them complete relief, so long as they remain in the schools. It is too much to demand that the majority shall wait their motions. In the field of morals, I believe the strong should bear the infirmities of the weak; but to introduce the precept here, and rigidly to insist upon it, would almost involve the loss of civilization.

In conclusion, let me remark again, that all inquiries in the field I have skirted, must be strictly inductive. General impressions and undigested facts are of small value. I would suggest whether this Association could not perform a valuable service by instituting some inquiries into the vital condition of the public schools. Could not a circular containing appropriate inquiries be sent to the more experienced teachers within the territory, covered by the Association, calling upon them for their facts and conclusions? Or, would it not be well to set on foot in the same territory a scheme for registering the vital phenomena of the schools? At one time I had thought of submitting such a circular, and urging the Association to commit itself to the enterprise; but concluded merely to suggest the matter and let it go. It seems to me, however, that some facts could be drawn out, which, digested by some competent person or persons, would be of considerable value in determining this vexed question. Of course, either undertaking would involve trouble and labor, but the results would more than compensate for both. The physical life is the basis of all life, and if it be true that we, as a people, are falling off in physical power, we may be sure that something worse will follow, unless the process of deterioration is checked.

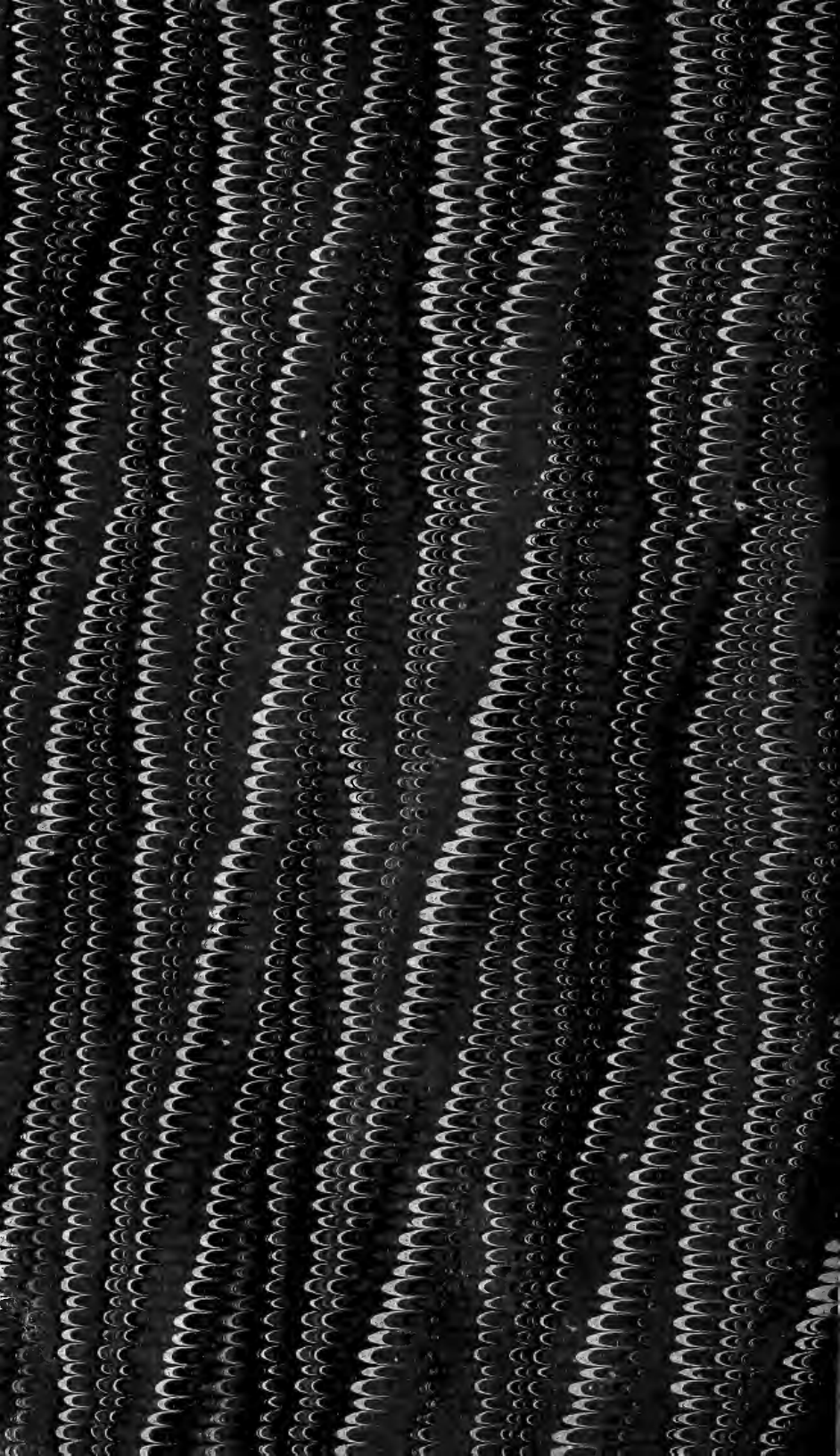


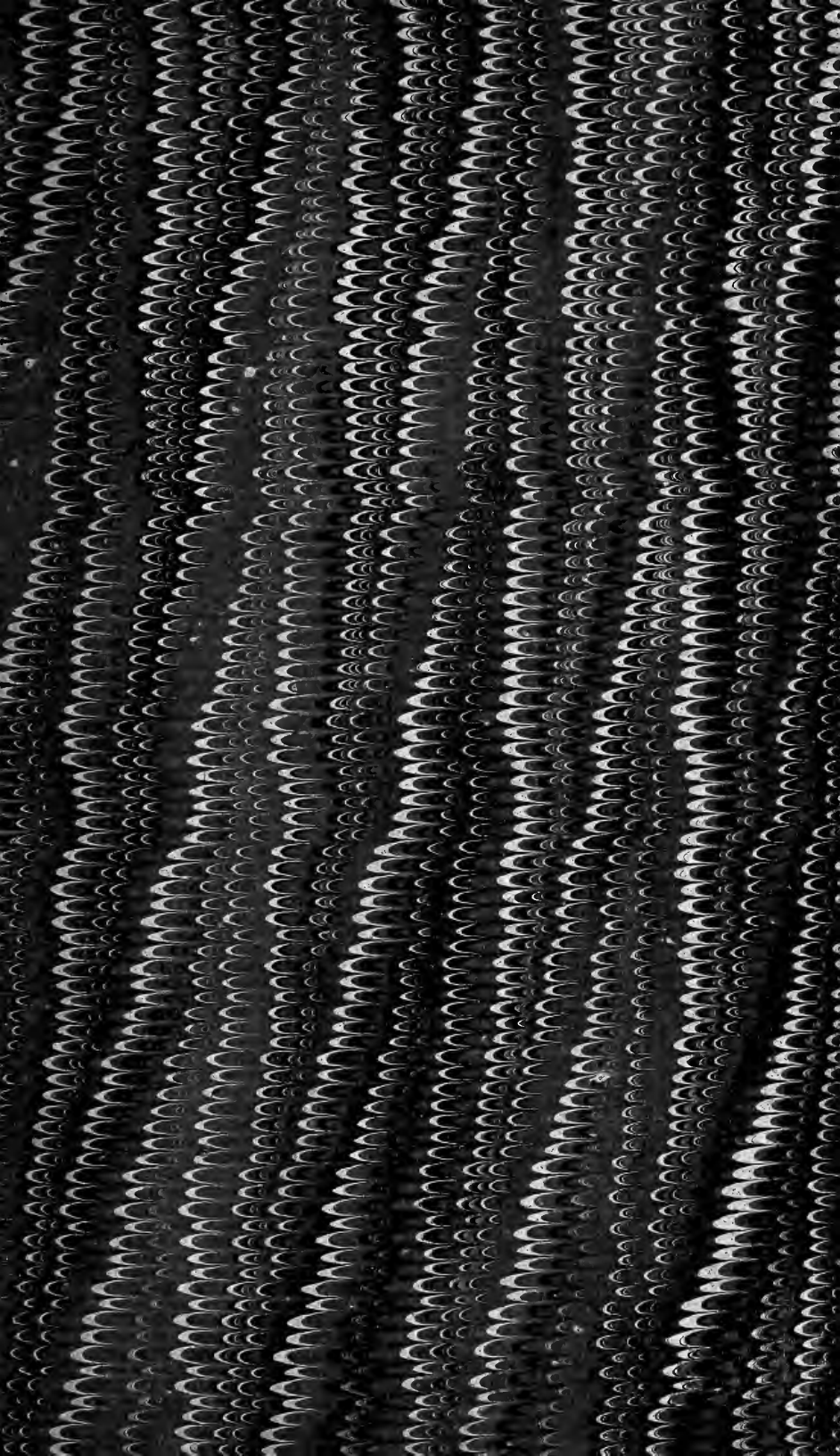












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